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EVALUATION ASSESSMENT REPORT

FARMLAB DEMONSTRATION PROGRAM

Saskatchewan Agriculture

November 1986

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prepared by

Brystra Consultants

Regina

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Brystra Consultants

November 14, 1986

Dr. T. John Taylor, Manager
Agriculture Development Fund
Saskatchewan Agriculture
3085 Albert Street
REGINA, Sask. S4S 0B1

Dear Sir:

Re.: Evaluation Assessment Report,

FarmLab Demonstration Program

It is a pleasure to present the draft evaluation assessment report on the FarmLab Demonstration Program.

The assessment is based on preliminary file and literature reviews, interviews with a small number of government officials, and discussions with other knowledgeable individuals.

I look forward to your comments.

Yours sincerely

BRYSTRA CONSULTANTS

Tom Bryant.

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attachment

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CHAPTER 1

PROGRAM DEFINITIONS

INTRODUCTION TO THIS REPORT

The present report consists of an evaluation assessment of the FarmLab demonstration program. It was commissioned by the Agriculture Development Fund (ADF) of the Saskatchewan Department of Agriculture (SDA) in September 1986.

FarmLab began operations in the fiscal year 1981-82. It was designed to enhance the development and transfer of knowledge about farm practices in Saskatchewan. The bulk of the $25 million allocated for the five year program was committed to research, primarily through an agreement between the provincial government and the University of Saskatchewan. A much smaller share (ca. 5%) was committed to transferring research and development (R&D) products to the farms through a demonstration program. The present evaluation is concerned with that demonstration component of FarmLab. It is not an evaluation of the research side of the FarmLab program.

The ADF is a successor program in many respects to FarmLab, although some important changes have been made. Funding levels have been increased to $200 million over five years, beginning with the 1986-87 fiscal year. The ADF also contains a demonstration program.

Evaluation of FarmLab's demonstration experience is intended to enhance the effectiveness of the ADF's technology transfer function. The importance of the technology transfer function is high-lighted by the need to ensure that the value of the enhanced R&D effort is effectively transmitted to the farm level.

This evaluation is planned to develop in two stages. In the first, for which this document is the report, an evaluation assessment has been conducted. This assessment is designed to document the starting postion of the evaluation. It consists of the following major sections, with the corresponding chapter in parathenses ().

- A logic model of FarmLab's demonstration component (1);
- FarmLab demonstration activities, in summary form (1);
- Communication models showing paths by which research information is transferred to the farm community (2);
- Significant evaluation issues (3);
- Analysis of data and methods available for the evaluation (4);
- Evaluation options, including methodologies (5).

The second stage of the evaluation will consist of the research and analysis of key evaluation issues.

LOGIC MODEL FOR FARMLAB'S DEMONSTRATION COMPONENT

Formal Process Model

According to the FarmLab brochure (ISBN 0-88656-158-2, AGDEX 020), and supported by numerous other information sources, demonstrations were to proceed as follows.

1. A farmer develops a project idea and takes it to his local Ag Rep.
2. The project idea is refined into a demonstration through co-operation between the Ag Rep and the farmer.
3. A proposal is developed and submitted to the agricultural extension district board for approval.
4. If the project is approved, the Ag Rep arranges implementation with a farmer co-operator, usually the original proponent.
5. The project is carried out on the co-operator's farm, with any costs above normal operations being re-imbursed by the program.
6. Results of the demonstration are summarized in a short project report by the co-operator and/or the Ag Rep.
7. Results are reported to the interested public in several ways, including reports by the Ag Rep, visual inspection, tours, field days, conversations, and other presentations.

There are several interesting points worth noting about this version of the model. Firstly, there is no mention of the connection between the research side of FarmLab and the on-farm demonstrations. The connection between research and demonstration as technology transfer is lost despite their side-by-side presentation on the inside of the same brochure. Demonstrations are not apparently related to research, either as methods of transferring research to the field or of transferring field issues to the Tabs.

Secondly, one notices that the initiator is listed as the farmer rather than the Ag Rep. In practice, both have been involved. Indeed, if the connection between the organized research and the demonstrations is to be strengthened, one might expect the further use of the Extension service to place demonstrations of sponsored research. That development would likely lead to an increased emphasis on Ag Reps as the initiators of demonstrations. At the same time, many Ag Reps believe that the more effective demonstrations were those initiated by committed farmers.

Thirdly, provincial specialists are absent from the FarmLab logic model. As custodians of specialized knowledge, one might expect them to be important links in a program to demonstrate and test new production technologies. (In the developing ADF format, they have developed more visible roles as participants and reviewers.)

Each of these issues suggests that the FarmLab model is being improved upon with experience. The same holds for two other important parts of the transfer chain: incentives and informal activities.

Incentive Structure

FarmLab re-imbursed extraordinary operating costs, defined normally in terms of tangible expenses which can be receipted, such as seed or chemicals. Softer costs, such as extra time spent to prepare machinery or conduct tours, was not covered. No profit is allowed from the conduct of the demonstration itself.

Gains to the co-operator include some expenses, improved farm practices and knowledge, and perhaps community prestige.

Informal Models

Several variations on the formal model were nonetheless present. They included:

- Placement of demonstrations by Ag Reps with co-operative farmers;
- Review of proposals by provincial specialists;
- Review of proposals by researchers;
- Suggestions for demonstrations by researchers, specialists and agricultural organizations; and
- Co-ordination of similar demonstrations through district, regional, and provincial consultations.

Some of those variations have been formally accepted in the operation of the ADF.

FARMLAB DEMONSTRATION ACTIVITIES: A SUMMARY

Project data for the FarmLab demonstration program were maintained in a conventional paper filing system. Project-level data matched the administrative requirements: proposal; participants; funding request, allocation, and expenditure; correpondence; occasional review or commentary notes; and official project summary. There are very few well-documented instances of critical reviews.

When project data were aggregated to the program level, the data retained were: the number of projects; percentage of projects by agricultural sector (crops, livestock, other); and allocations and expenditures. Tabulations were produced manually from original sources. Reformulation, therefore, would require a complete recompilation of file data. As a result, program-level reporting was considerably more limited than would now be possible with computerized databases and analytical packages.

A synopsis of program activity is presented in Exhibit 1. It shows:

- Gradual increases in the number of projects;
- No trend in program expenditures;
- No trend in average project cost; and
- Heavy emphasis on soils and crops.

Other data indicated that the projects had been broadly dispersed throughout the province.

It is very important to note that the average expenditure per project was well under $1,000.00. With a few large projects in the mix, it is apparent that the average FarmLab demonstration project cost the program $500.00 or less. By the standards of most demonstration programs, that is a minute sum. The program appears to have supported a great number of very inexpensive demonstrations. The effective role of projects of that size in technology transfer will be an important evaluation issue. The financial size of the projects has important implications for the incentives offered the host co-operator, the scope of the innovation being demonstrated, and the extent to which adequate support is given by the projects to the critical communications functions. (1)

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(1) It should be noted that the reported costs are equivalent to out-of-pocket costs. They do not include the time of the Ag Reps, program support or signage, or the value of media reports. Full cost/value accounting would likely produce quite different figures.

EXHIBIT 1

SUMMARY OF FARMLAB DEMONSTRATION PROGRAM ACTIVITIES

Fiscal Year	No. of Projects	Expenditures	Average $/project	%Soils/Crops:Livestock:Other
1981-82	26	13357.63	513.76	unknown
1982-83	160	115638.27	722.74	90::10
1983-84	249	145492.72	584.31	90:5:5
1984-85	250	125448.54	501.79	76:16:8
1985-86	272	190973.77	702.11	unknown
Totals	957	590910.93	617.46	

Source: departmental memoranda

CHAPTER 2

COMMUNICATION MODELS OF TECHNOLOGY TRANSFER

Agricultural extension was one of the earliest areas to apply systematic efforts at technology transfer. The technology transfer literature in the 1950's was heavily concerned with agricultural activities.(1) In more recent periods, there has been a shift to other areas of research and commerce, such as aerospace and electronics.(2) In the past four years or so, there has been a notable resurgence in Canadian interest in agricultural technology transfer, as shown by the work of the Working Group on Reseach and Technology Transfer.(3)

The two most basic considerations have been related to the transfer of new information within a given socio-economic system, such as Saskatchewan, and transfer across systems, such as Saskatchewan to the Soviet Union or Ethiopia.

Linear Single-System Model

Although many authors have developed models of the diffusion process, the most broadly accepted one is the linear model shown in Exhibit 2, opposite. There are several different versions, with anywhere from three to seven or more steps. Other authors have concentrated on the characteristics of the people filling each of the roles in the technology transfer process. A combined model, describing both the evolution of a new technology and the types of people it reaches at each stage, is presented in this section.

This linear model examines the flow of a single piece of new information. The starting point is assumed to be in research, whether basic or applied. New knowledge about the way the world works is created there.

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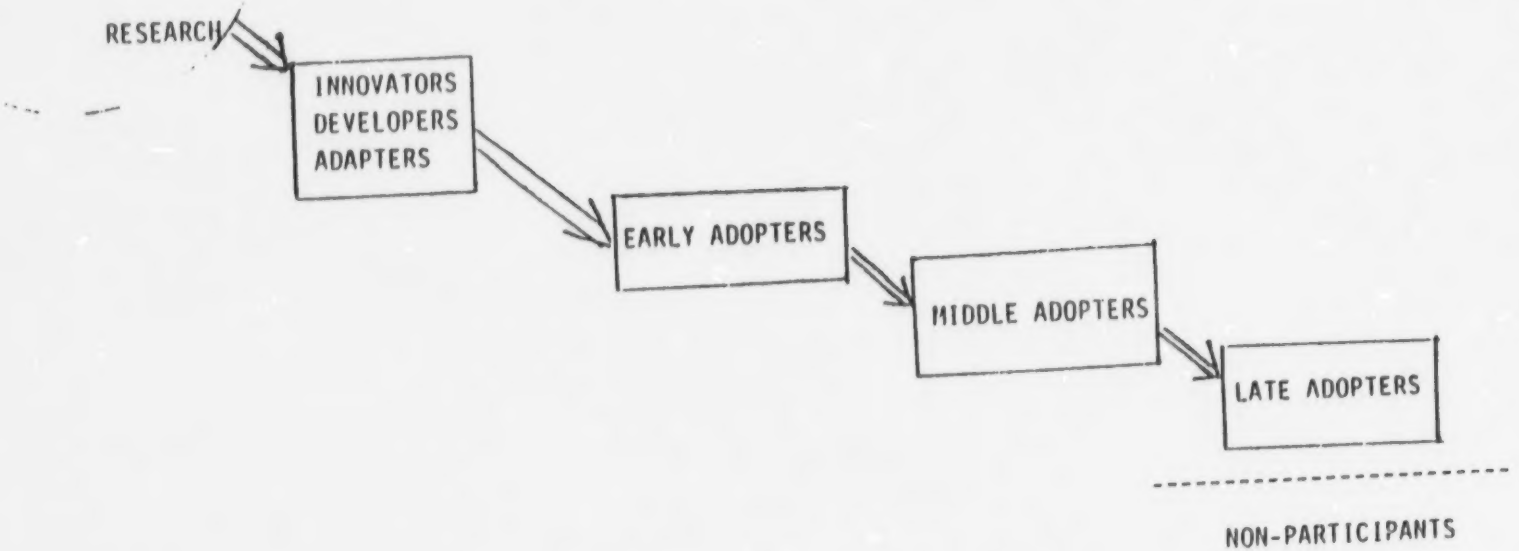
(1) See, for example, the work of Bohlen and Beal (cited by Webster, p. 30); Everett M. Rogers (1962) The Diffusion of Innovations; and Bruce Ryan (Sept. 1948) "A Study of Technological Diffusion," Rural Sociology.

(2) See: Richard R. Nelson, et al. (1967) Technology, Economic Growth, and Public Policy; L.G. Tornatsky, et al. (1983) The Process of Technological Innovation; J. David Roessner, ed. (1984) "Symposium on Innovation Policy" pp. 429-490 in Policy Studies Review 3(3-4)

(3) For a review of the Canadian activity, see the report by Webster, pp. 24-34. An interesting comparison of US and Swiss experiences is summarized by Iriangi Bloomfield (1984) "Managing Technology in the United States and Switzerland: Some Insights from Agriculture," Policy Studies Journal 12(4): 613-626.

EXHIBIT 2

LINEAR MODEL OF TECHNOLOGY TRANSFER



Given basic scientific knowledge, developers and adapters convert it to applications. Field testing, including technical demonstrations as pilot projects, would normally be included in the second stage.

The first end-users to take up the developed product are a special breed in most cases. Early adopters tend to be innovators, risk-takers, frequently on the leading edge of change in their communities. They often set the community trend in several respects, acting as early adopters of more than one innovation.

Middle adopters are more cautious than the leaders, but observe the latter carefully. They can be persuaded to try something fairly new after someone else has proven it in an operation which is seen as comparable or competitive. According to the standard model of technology transfer, the middle adopters are defined as the majority of those who will eventually adopt the innovation.

Late adopters are more hesitant. They accept change reluctantly, often only when the majority in their community has already moved.

Some individuals or organizations may be excluded from the adoption cycle. No matter what the advantages of an innovation, there will always be some who refuse to adopt it. Just as there are some Canadian farmers who refuse to adopt tractors, there are some city dwellers who refuse to adopt television. Communication problems, such as a language barrier, may also account for non-adoption.

When analyzing the progress of an innovation using this model, it is important to accurately define the population which can reasonably be expected to adopt the new idea. Development of new canola varieties is of little import to the operation of a feedlot, for example. The target audience for canola news is canola producers - and, possibly, people considering becoming canola producers. The extent to which an innovation is adopted by its natural clientele is an important indicator of the quality of the innovation and the effectiveness of the technology transfer system.

The rate of diffusion of an innovation may, however, be influenced by numerous other factors. Regulatory constraints, competitive innovations, economic incentives, and social forces such as leadership and prestige may all affect the rate of progress. Early adoption of a new technology by a person or group which does not enjoy social acceptance may result in a stigma which can dampen innovation considerably. It has been argued, for example, that the development of irrigation in Saskatchewan has been slowed for several decades because of differences in social standing between the early adopters (often Chinese market gardeners) and the target audience of dryland farmers.

Weaknesses with this model include the lack of feed-back from practitioners to researchers. It assumes the reason for the reasearch. In practice, research hypotheses may be derived from research conundra; they may also be driven by field problems or operations. The linear model, by idealizing the successful and complete transfer process, fails to clearly identify the sources of break-down or deflection.

Trans-Social Model

In pioneering studies of cultural change, Daniel Lerner (4) and others examined cases such as the propagation of the transistor radio. They found two important phenomena: foreign technologies were often adapted to local culture before they became fully absorbed and adoption of new technologies was often strongly correlated with community influence.

Change agents within a society often draw their inspiration from outside sources, adapting practices elsewhere to their own environments. Success requires both the external contacts and the perseverance to carry out a trial-and-error adaptation process.

The transitional stage between old ways and new may place change agents in an isolated position. They are surrounded by people whose established routines they are challenging. Success of the adaptation threatens that existing order in numerous ways: routines, economics, social standing. In these senses, the innovator may be placed in the role of an outcast during the early stages. Few personalities handle that situation well, thereby limiting the number of potential change agents.

In cases where a community is threatened or its leadership is based on innovation, different criteria apply. Community leaders may then seek outside information and act as the conduits for adaptation and dissemination.

The trans-social model anticipates that diffusion will vary on the bases of communication and leadership. It also anticipates a need for technological adaptation in association with social adaptation.

An interesting variation on the trans-social model occurs when we consider the different stages in the linear model as different cultures. Early adopters have distinct social and attitudinal characteristics which separate them from other in their industry. The same may be said for middle and late adopters. If each is treated as a separate social group, then we might anticipate a need to adapt the technology as it is transferred from one level to the next. Personal computers, for example, may need to change in price, function, and marketing as they move from the first 5% of buyers to the last 50%.

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(4) Daniel Lerner (1958) The Passing of Traditional Society: Modernizing the Middle East; Homer Barnett (1953) Innovation: The Basis for Social Change; James Coleman, Elihu Katz, and Herbert Menzel (Dec. 1957) "The Diffusion of an Innovation among Physicians," Sociometry; Thomas Dernburg (1958) "Consumer Response to Innovation: Television," Studies in Household Economic Behaviour Yale University Press: New Haven.

Continuous Spiral Model

When one recognizes that research questions can be derived from farm operations and stimulated by farm operators, then the linear model of Exhibit 2 is bent into the circular model of Exhibit 3, opposite. In fact, the model is best visualized over time as an endless spiral to illustrate the progress that is made on each revolution.

In this model, all activities can occur simultaneously, albeit on technologies at different stages of development and diffusion. Thus an innovation demonstrated ten years ago may be moving into acceptance among late adopters at the same time as a new technique is being tried by the early adopters. Many competitive technologies may be in place at the same time, but at different stages of their product cycle.

Feed-back can occur easily between almost any two stages. Innovation and adaptation are constant features which recogize valuable results from each of the stages in the diffusion model.

The challenge in such a system is to maintain open communication while ensuring efficiency of time and capital. Production runs embodying a certain level of technology need to last long enough to provide a valuable return. They also need to match a market segment which reflects adoption of that stage of the technology's development and is large enough to support an economic production run.

In this sense, it is possible for technology producers to serve a small advanced group of early adopters with technology which is near to the state of the art. Other producers might have a quite successful market made up of late adopters comfortable, finally, with what the front-runners would consider badly out-dated technology. Good examples can be found in the farm implements industry in Saskatchewan as well as many others. In some cases, adoption can be scaled across countries with some being classified as early adopters, others as late-comers. Fertilizer and pesticide applications provide numerous examples of differents in the points of adoption by country.

The Roles of Demonstrations

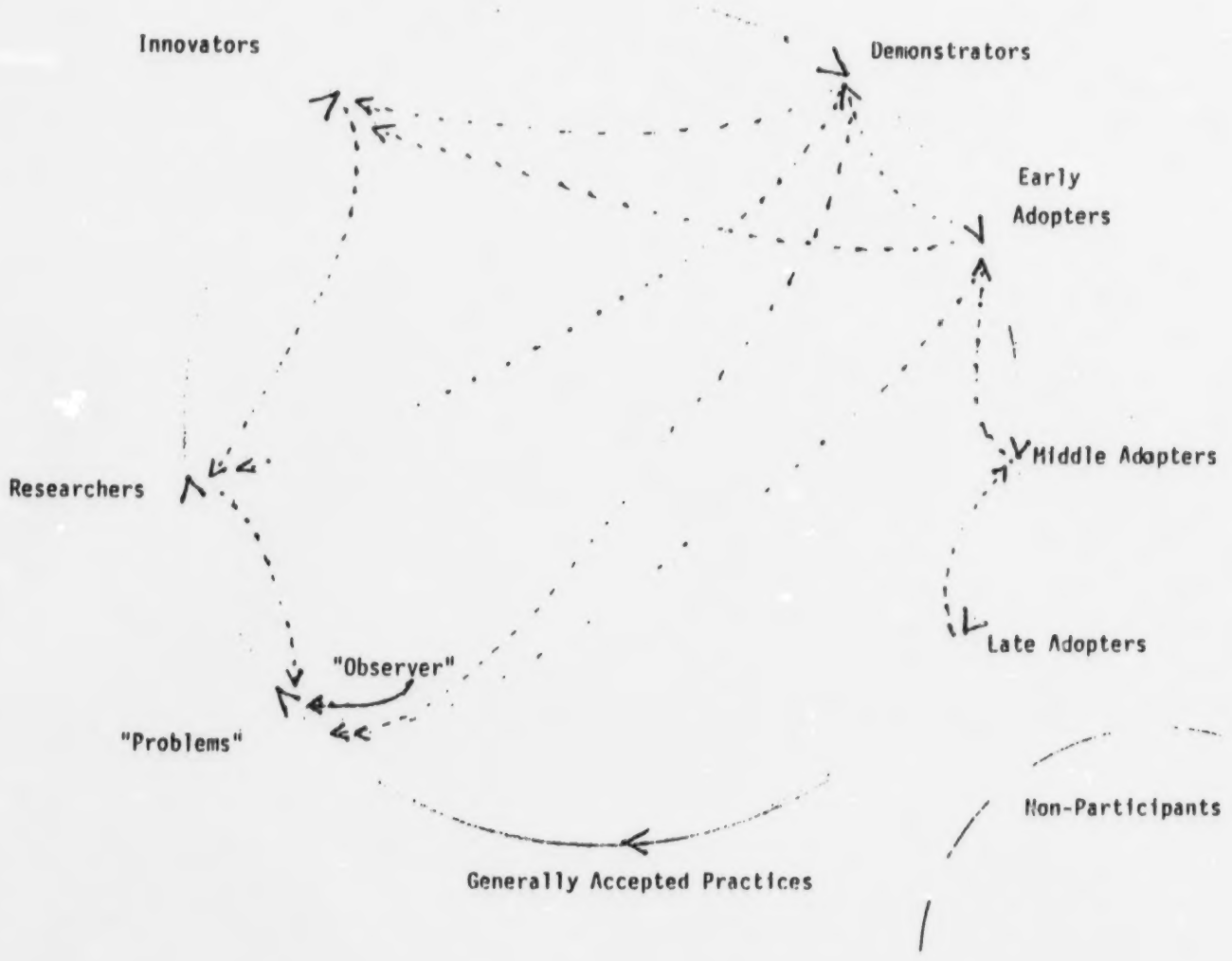
Demonstration programs can fall into several types. Demonstration of technological feasibility is closely related to R&D. The clients for the results are people who have doubts that the theory will work in a pilot- or full-scale field application. The critical question is whether the technology will work in the field.

Demonstration of economic feasibility is targetted to audiences considering sponsoring the diffusion process. The key question is whether or not the technology can be operated economically.

Market demonstrations are designed to test the reactions of potential adopters and to refine the user appeal of the product. Definitions of the sub-markets in terms of special features or adoption rate may also be produced by market demonstrations. The challenge is to discover the rate of adoption and the eventual market penetration.

EXHIBIT 3

CONTINUOUS DEVELOPMENT MODEL OF TECHNOLOGY TRANSFER



Apparent FarmLab Model: [redacted]ons

The model apparently used by FarmLab is shown in Exhibit 4, opposite. As noted below, there are many elements which need to be examined in more detail during the evaluation.

Appearances indicate a rather haphazard approach to technology transfer. There was no direct link between the research program and the demonstration program. There was no feed-back from the demonstrations to the research side. Follow-up of the adoption process beyond the demonstration level does not appear to have been designed as part of the complete transfer process. The various issues associated with adoption do not appear to have been linked to the demonstrations, either in design or implementation.

The official method of selecting demonstrations, driven primarily by the farmer-proponents, is unlikely to have been a very effective means of supporting research directions or policy initiatives. Such a technique is more suitable for technologies at later stages of the diffusion process. Economic feasibility is specified as part of the Ag Rep's report, but appears to be almost an after-thought without a specific audience.

Communications outputs from the demonstrations were often designed for potential adopters - but it is less clear that demonstrations were designed to provide convincing information for identifiable groups of adopters. Follow-up and redesign were outside the definition of the demonstrations. Some important exceptions stand out clearly. They include projects designed, sponsored, and monitored by industry associations.

FarmLab demonstration projects do not appear at this point in the evaluation to have followed any of the usual roles for demonstration projects. Researchers had little input to the design and little feed-back from the results. (In any event, it appears that many designs were not useful for research purposes due to lack of scientific and statistical controls.)

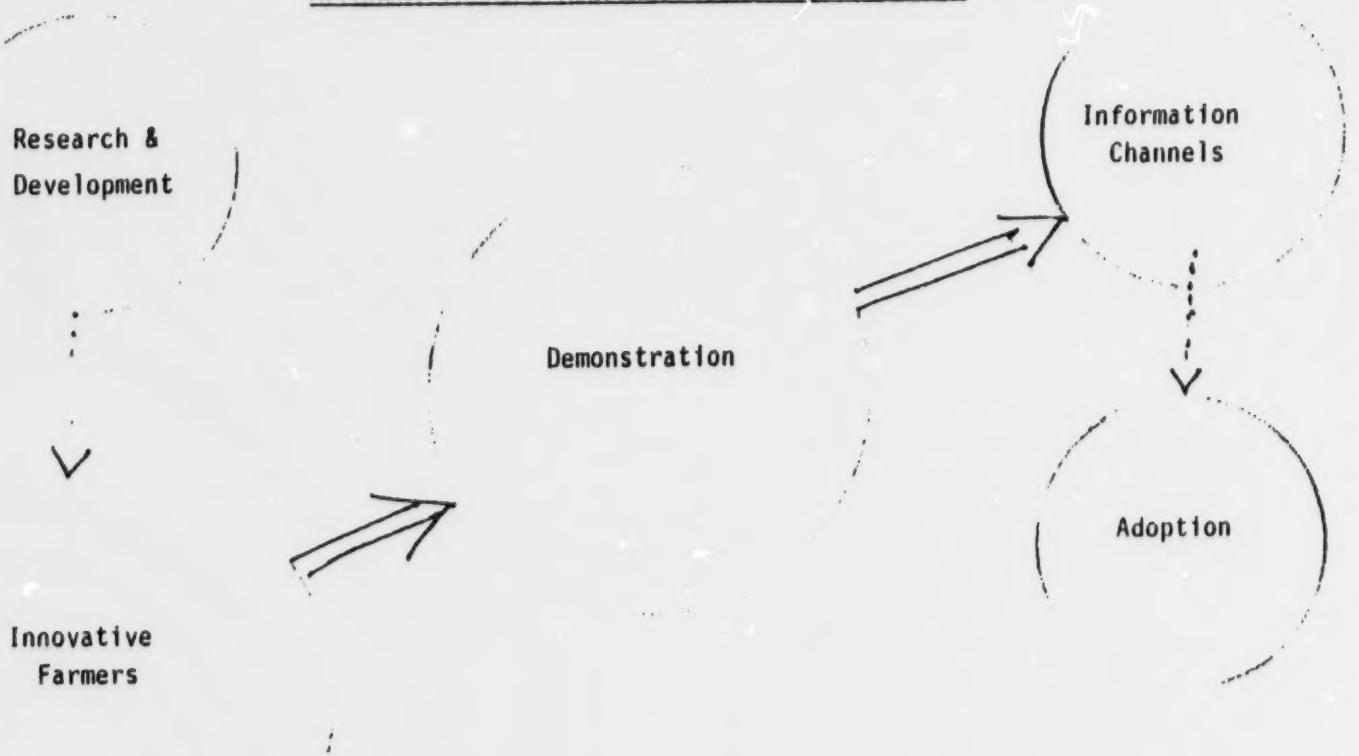
Summary: FarmLab Demonstrations as Technology Transfer Tools

FarmLab demonstrations covered a wide range of innovations, geographic areas, and co-operators and associates. They do not, however, appear to have been organized in such a way as to provide effective links in a comprehensive technology transfer effort.

Similar observations have been associated with many other demonstration programs in their start-up phases. Various Canadian energy technology demonstration programs in the 1970's and early 1980's suffered from the same problems.

EXHIBIT 4

APPARENT FARMLAB MODEL OF TECHNOLOGY TRANSFER



Tom Bryant

Proposed as the sole consultant for the first phase, Tom Bryant is the President and senior consultant of Brystra. He has more than four years of experience as a full-time professional consultant. After completing his graduate work (S.M. and Ph.D. in technology policy) at M.I.T., he returned to Canada to work in the national program evalaution practice of Peat, Mqrwick and Partners. In two years with that firm, he was responsible for approximately 20 evaluation assignments, including much of the analysis supporting Agriculture Canada's evaluation of Crop Producer Risk Protection. During the latter assignment, he developed a crop insurance version of the Dryland Farm models originally developed by Dr. Robert Zentner at the Swift Current station.

Tom Bryant's family has farmed in Saskatchewan since 1908, handling a variety of crops and cropping techniques as well as livestock operations. His doctoral thesis incorporated a detailed evaluation of the South Saskatchewan River Project, including attitudes and reactions of the farm communities surrounding the project. As of Septmeber 1, 1986, Dr. Bryant will be a part-time member of the Faculty of Administration at the University of Regina.

As an evaluator, Tom Bryant is active in the Canadian Evaluation Society and a founding member of the American Evaluation Association. Among other roles, he is a member of the Utilization-Focussed Group within the AEA. He is one of Canada's most experienced evaluators with over 30 evaluation assignments to his credit and clients from Whitehorse to Halifax. He is also a long-standing member of the Project Management Institute and several other professional societies.

COSTS AND TERMS

A sound evaluation assessment should be possible within 15 days of professional time. We therefore propose to undertake the first phase for a maximum of $7,500.00, plus expenses at cost. It is our plan to use only Tom Bryant on this assignment; his standard per diem is $500.00. Secretarial expenses are minimal due to our automated capabilities. Travel expenses are also expected to be minimal for this phase, with sufficient sample site available within a one or two day trip from Regina to provide the necessary information for the evaluation design. Telephone expenses may, however, be used to reduce the travel component. We suggest an overall allowance of $1,000.00, but will only bill expenses at cost as they are incurred.

...9

CHAPTER 3

MAJOR EVALUATION ISSUES

Many potential issues have been raised for this evaluation. In this section, major issues are organized according to the four categories normally used in Canada:

- o Rationale of the program;
- o Achievement of objectives;
- o Other impacts and effects; and
- o Alternatives.

While many issues are identified, recommendations concerning priorities for this evaluation are also included.

RATIONALE

Rationale issues normally address such questions as:

- o Does the program make sense?
- o Are the activities logically related to the objectives?
- o Does the program fit the policy requirements of the present? of the foreseeable future?

For the purposes of this evaluation, FarmLab is defined as a program intended to:

> "find answers to production problems and demonstrate production technology that increases yields and improves livestock production, while still saving the soil." (FarmLab brochure)

The scope and activities of the demonstration program have been discussed in preceeding chapters.

Issues and Discussion

I1.1: Is a technology transfer program needed?

Evidence to date indicates broad acceptance of the intent of the demonstration program, especially when expressed as the acceleration of techological diffusion.

R1.1: Not recommended for further evaluation.

I1.2: Was the FarmLab demonstration program designed in such a way that it could be an effective transfer agent?

There is preliminary evidence that several pieces of the transfer chain were missing or supplied by less organized means (e.g., word of mouth). The FarmLab demonstration program does not correspond closely to existing models of technology transfer or of successful demonstration programs.

R1.2: Recommended for evaluation from both longitudinal and comparative perspectives. Development of the demonstration program should be examined in terms of changes that were introduced to the policy for on-farm demonstrations. Comparison with the present ADF demonstration program should be included to bring the record up to date and identify trends in program design. Comparison to other demonstration programs, in agriculture and energy, should be used to identify appropriate terms of reference for demonstrations in agriculture in Saskatchewan.

I1.3: Are the most appropriate communication channels being used?

Effective transfer and development systems require effective use of communicatons. The FarmLab program tended to rely heavily on Ag Reps and project reports, with some emphasis on signs, tours, field days, radio and newspaper reports, and word-of-mouth communications. Those methods appear to have been either standardized across the whole program or dependent on the time, commitment, and ingenuity of the Ag Rep in the project district.

Yet demonstrations have different audiences. Regions have different credibility patterns. Different products are at different stages of development and diffusion. Sub-issues include:

- Under what circumstances should different communictions plans be introduced for demonstrations?
- Can demonstrations be defined in terms of their target audiences, with data and communications arranged accordingly?
- What media have the highest credibility with the farmers expected to adopt successfully demonstrated technologies? Are they being used by the program?

R1.3: Recommended for evaluation, using organizational analysis. Analysis of media credibility factors and other channeling issues to be restricted to literature and expert evidence, without resort to primary data collection at this time.

I1.4: Should the scope of demonstrations be expanded to include more elements in the technology transfer cycle?

Since the purpose of a demonstration is to convince others to act, following up to determine the extent to which the target audience did adopt the technology, factors inhibiting or accelerating that adoption would appear to be an important step in reaping the benefits of the demonstration. Feed-back to researchers and indeed to demonstrators would help to identify snags and stimulate their early resolution.

R1.4: Recommended for evaluation, using logical, literature, and program analysis.

I1.5: Can the existing procedure for developing and selecting demonstrations adequately serve the policy goals of broad sectoral development?

The advantages of the official FarmLab proposal model, that proposals are farmer-originated, is that it allows innovative farmers to stimulate developments which may originate outside the provincial research system. Several of the examples in the Webster study for Agriculture Canada follow that path.

Disadvantages have been identified with the lack of co-ordination across the province when broadly applicable innovations require multi-site demonstrations. Those projects normally require central sponsorship and placement. Lack of direct co-ordination between the research program and the demonstration program may serve to dilute the value of the investment in research if it is not demonstrated in a co-ordinated manner. Changes introduced in the later stages of FarmLab and in the ADF suggest that on-farm demonstrations are moving in the direction of more central placement activity.

In the New Brunswick CREDA (energy) program, major demonstrations were separated from small projects. The former tended to be much more expensive than the later and to involve more central organization. The latter involved more projects, a wider variety of citizen-level sponsorship, and more local expenditure authority.

Other CREDA demonstration programs separated technical from economic from market demonstrations. Each type has different scientific and communication designs and personnel requirements.

R1.5: Recommended for historical and comparative review and evaluation by logical extensions. Consideration should be given to the implications of splitting the program.

I1.6: Are the roles of the participants in technology transfer properly reflected in the design of the program?

In the FarmLab program, the Ag Reps acted as the focal point of the organization. Their role in agricultural extension services makes the fit a good one in many ways. Concerns have been raised, however,

about some of the limitations of the heavy reliance on the Ag Reps. Sub-issues include:

- o Do Ag Reps have the required technical expertise to review and supervise the demonstrations?
- o Is the involvement of the Ag Reps at the expense of participation by other important players in the technological chain, such as researchers, innovators, commercializers, provincial specialists, and farm-related industries?
- o Can Ag Reps afford to spend the necessary time on demonstrations, given their other responsibilities?

R1.6: Recommended for preliminary evaluation. Full evaluation would likely require detailed organizational reviews across a fairly large number of technological and occupational classifications.

ACHIEVEMENT OF OBJECTIVES

According to several different documents, the objectives of the FarmLab demonstration program closely corresponded to the overall FarmLab goals:

- o Improving agricultural production (both quantity and quality assumed); and
- o Saving the soil (alternatively: improving soil productivity).

Specific objectives for the demonstration program appear to have been rather vague, such as encouraging technology transfer through on-farm demonstrations.

Stated in such general terms, those objectives are difficult to evaluate satisfactorily. Conclusions could be not more precise than the criteria which are very imprecise in this case.

R2.1: It is our conclusion that the stated objectives cannot be evaluated in this form?

There are, however, more precise objectives which could be developed for the program which would provide useful standards against which its performance can be measured in a way which will be useful to the ADF. Implicit objectives underlie many of the traceable decisions made by program participants. Other objectives can be abstracted from related extension services and other demonstration programs. Since the purpose of this evaluation is to develop knowledge for the ADF, rather than a review of FarmLab per se, the retroactive application of these implicit objectives should be seen as an heuristic device. The intent is to examine the performance of FarmLab in terms of objectives which the ADF may wish to adopt.

Implicit Objectives

The following objectives can be seen as implicit to FarmLab or candidates for successor demonstration programs. Some are not evaluable within the present context, due to time requirements or lack of baseline and impact data.

01: To cut in half the diffusion time to the farm level of new technologies which have the potential to enhance productivity by at least 5% over technologies currently in use.

02: To prove the technical or economic feasibility of Saskatchewan-developed technologies which have export potential.

03: To accelerate enhancement to agricultural productivity through improvements in communication between researchers, innovators, and users.

04: To demonstrate the falseness of improperly developed technologies.

05: To become an authoritative source of new product information.

06: To provide sufficient incentives for innovators to conduct rigorous field tests of their ideas and commercialize those with economic potential.

07: To give innovators outside the regular university, corporate, or government R&D systems an opportunity to test their ideas.

08: To decrease the elapsed time between the establishment of technical and economic feasibility and adoption of new technologies by 50% of the target audience.

09: To enhance the adaptation of technologies from other parts of Canada and the world to uses in Saskatchewan.

010: To place a minimum number of demonstrations in each agricultural region of the province, allowing all producers the opportunity to participate either as co-operators or observers.

011: To carry out demonstrations which support government priorities for development of the agricultural sector.

012: To ensure that all affected producers are made aware of the benefits of demonstrated technologies.

R2.2: For the present evaluation, examination of the extent to which FarmLab met objectives 2, 3, 5-7, and 10-12 is recommended. Analysis of project files, interviews with key participants and a few selected representatives of potential users should be used to show the extent to which FarmLab has met thse objectives, and any major obstacles to full achievement. If desired, information and methodological requirements to address the other objectives can also be outlined for future use.

IMPACTS

The "impacts" section of most evaluations is concerned with impacts other than those covered by the objectives. The growth of cereal farming on the Prairies, for example, had the impact of decimating the large livestock ranches which had preceeded it. That result was no more an intended objective of breaking the prairie to the plow than acid rain is an objective of the mining and smelting industries.

Few impact-type issues have been raised with respect to the FarmLab demonstration program. Those which might be considered include the following.

I3.1: Has the allocation of FarmLab demonstration sites affected the social structure of communities or the relations between communities?

FarmLab provides visibility and a certain level of credibility. Those factors may combine to shift the community standing of host co-operators.

Insofar as this phenomenon occcurs, it is probably considered beneficial within the perspective of FarmLab. The standing of co-operators is likely to be enhanced through association with agricultural progress, thereby encouraging others to emulate both the demonstration and the co-operation.

R3.1: No further evaluation.

I3.2: Has FarmLab affected the overall attitude of producers and related organizatyion toward innovation?

R3.2: Since it would be difficult to measure such a change without prior baseline data, and even more difficult to attribtue any difference to FarmLab, no further evaluation is recommended.

I3.3: Has FarmLab affected communication patterns in the farm community?

Demonstration results have been communicated to the target communities through a wide variety of media, including community activities such as tours and field days.

R3.3: Exploratory evaluation is recommended at this time, in association with interviews addressed to intended technology transfer impacts.

I3.4: Has FarmLab changed the economic structure of communities?

Insofar as advanced knowledge can be linked to economic advantage, skewness in access to demonstration results may act as a vehicle for skewing community economic structure. Few technologies have been demonstrated as widely as they would need to be to reach all applicable producers. Consequently, it is likely that at least a temporary advantage has been created.

For most demonstration projects, it appears that any such advantage would be relatively insignificant in the short-term. In the long-term, demonstration results for important innovations are likely to be widely dispersed, making proprietary control unlikely.

For demonstration co-operators, the lack of honoraria and capital contributions probably results in a small economic penalty, at least in terms of opportunity costs on time and equipment. That cost is, however, likely recouped to some extent through the benefits of improved knowledge accruing to the co-operator.

R3.4: The benefits involved do not appear to be sufficient to warrant detailed examination at this time. Since the issue does touch on some important issues of economic incentives for key participants in the technology transfer cycle, it should be monitored during the evaluation for further consideration later if the issue has been under-estimated.

NO

ALTERNATIVES

Assuming acceptable objectives for the program ("Rationale"), the Alternatives section of an evaluation asks if there may be one or more superior ways to accomplish the same end. Alternatives may be tested against three standards.

- Economy: Is there a cheaper way?
- Efficiency: Can resources be used more intensively?
- Effectiveness: Can better results be achieved?

As FarmLab evolved, administration of the program was changed. As the ADF has developed, several changes from the FarmLab format have been introduced. That evidence alone suggests that key participants have felt there to be room for improvement as operating experience grew.

From the brief analysis presented in Chapter 2, above, it is clear that the formal FarmLab model was inadequate as the means of transferring FarmLab-sponsored R&D to the agricultural community. Further research is needed to identify:

1. The extent to which an informal communication system supplemented FarmLab's formal activities;

2. The importance of any real gaps in the technology transfer system;

3. Appropriate roles for SDA, other government agencies, and other parties in closing those gaps.

Evaluation issues which help to structure that research have been designed as follows.

Issues and Discussion

I4.1: Can on-farm demonstrations play a more effective role in moving new information into the farm community?

R4.1: Recommended for evaluation using literature, expertise, and representative data.

I4.2: What would be the consequences of restructuring the program to emphasize communication of innovative techniques, rather than demonstration?

Since the purpose of technology transfer is to stimulate action based on sound information about the advantage of new technologies, communication of those advantages is a critical element which is often underplayed in demonstration programs. The logical reversal of that situation is to concentrate on the communications end, with FarmLab's subsidy and technical review steps becoming instrumental in stimulating good quality activity for the transfer service.

R4.2: Recommended for exploratory evaluation at this time. Strenghtening the emphasis on marketing and communications is an important alternative to the FarmLab format.

I4.3: What would be the consequences of more active involvement of commercial interests in the demonstrations?

Commercial interests can be seen to have the gretest stake in following up successful demonstrations. They have clear incentives to maximize market penetration of their new technologies as soon as possible. They also have distribution and marketing capabilities which are being used for technology transfer at present.

Proprietary rights to new technologies link the fortunes of the innovation to the owning company. Conversely, there are circumstances in which a company with a less efficient technology is threatened by an innovation and attempts to prevent its diffusion.

Some knowledge is difficult to embody in a commercial product. "Public goods" and other arguments have been developed to distinguish between goods and services which have public value without being

appropriable to a commercial interest, those which become distorted when so appropriated, and others where value is maximized through private sponsorship of one form or another.

The boundaries between government and commercial interests are extensive and complicated in agriculture where both sectors are involved in R&D and transfer activities. Debate about the best relationship between the two sectors and their various constituent organizations is likely to continue indefinitely. Despite the political and ideological content of the debate, there is room for objective analysis if the purpose is clearly defined.

R4.3: Recommended for evaluation through interviews with industry, government, and farm representatives.

I4.4: What would happen if the program were split into one part which concentrated on large-scale demonstrations of innovations at the commercial stage, another concentrating on developmental demonstrations testing technical or economic variables, and a third providing opportunities for small projects proposed by independent producers?

The FarmLab demonstration program served as a general purpose technology transfer program, covering all kinds of demonstrations in the agricultural sector. Yet, its format was not well-suited to several important types of demonstration. It offered the advantages of coordination via single-agency delivery, and the handicap of having to fit within the capabilities of that agency.

If one examines the political context of the program and its role in the technology transfer system, it appears that the broad program goals hide some fundamental cleavages between different kinds of demonstrations.

R4.4: Recommended for evaluation, using CREDA and agricultural experience elsewhere, interviews, and organizational analysis.

CHAPTER 4

EVALUATION METHODOLOGIES

DATA SOURCES

Program Files

Program files consist largely of correspondence and fairly limited compilations of program data. Expenditure data on each project, broken down annually by request, allocation, and payments are available for each project. Geographic data consist of Ag District identification. No master index of projects by any criteria other than Fiscal year of approval and Ag District was recovered. Sorting projects by technology, transfer stages, type of proponent, expenditure level, or other characteristics would have to be done manually from basic file data.

Project Files

Individual project files contain basic information on the project, such as the proposal and related correspondence. Expenditure data are available for government payments. Detailed items are included in some files but are not systematically organized. Technical data are limited in most cases and are not compiled in a way which would permit easy analysis across projects.

The files are in good condition, but they contain relatively little of the information needed to properly evaluate a demonstration program. For example, very little communications information is included. There are few newspaper clippings, no records of the number of site visitors or trafic counts, no record of radio or TV coverage.

Other Documentation

Correspondence files, District and Regional Council minutes, and the Departmental annual report were all useful sources of general information and of some evaluation issues. Ministerial Returns have also included useful historical and program information.

The Webster paper for Agriculture Canada earlier this year contains some very interesting case studies with intriguing hints about the operation of various transfer systems in the Canadian agricultural community. It also suggests several important hypotheses, such as the increased effectiveness of demonstrations where the proponent is so committed as to be pushing both the R&D and the demonstration.

Other literature is available in overwhelming volumes. There are ample opportunities for comparative analysis on many key points.

Interviews

The following categories of interviews appear likely to be useful.

- o Program administrators
- o Policy developers
- o University administrators
- o Extension personnel from Directors to Ag Reps
- o Researchers
- o Federal officials
- o Industry representatives
- o Producer representatives.

There are more than adequate numbers of people to interview on most topics. Since each interview would solicit the personal experiences, knowledge, and insights of the respondent, a semi-structured interview format is recommended. It should be possible to develop a general issue check-list for guidance in most interviews, with the recognition that a non-standardized part of each interview would deal with the respondent's particular insights.

Survey Data

It would be possible to conduct a survey of farmers to explore their attitudes toward innovation and their communication channels. Those data could be used to develop profiles of farmers at various stages of the adoption cycle, and to test the consistency of adoption rates across innovations. Actual sources of information and the credibility of alternative channels, as well as the density of coverage by various techniques could also be tested.

Some of the uses for survey data would be best served by longitudinal panel data which could show the reactions of farmers to changes in programs and media. Detailed tracing of information sources in the adoption process would be aided considerably by annual logs, quarterly surveys, or in-depth interviews. A single producer survey would contribute relatively little critical information in this evaluation, despite large volumes of data and associated costs.

Case Studies

Several of the important studies of technology transfer have used case studies of particular innovations to identify critical decision points, participants and key information channels.

At this stage of the development of on-farm demonstrations in Saskatchewan, such case studies are a lesser priority than overall program information. The broad nature of the program does not lend itself to critical case analysis.

It does, however, fit the requirements for typical case analysis, particularly on issues related to the process by which technology is diffused and on possible process differences between types of technology. Since there are several major categories of cross-cutting categories, cases should be chosen to represent FarmLab demonstrations in terms, at least, of technology, location, and development stage.

Secondary Economic Data

Over a long period of time, secondary economic data might be used to test the impact of technology transfer efforts on industrial productivity. In fact, quasi-experimental designs might even be possible, matching similar jurisdictions with and without transfer programs. Over the time period since FarmLab began in 1982 until its replacement by the ADF in 1986, however, economic effects are likely to have remained insignificant at most levels of accounting. In the future, such analyses may be more useful, particularly in sectors where an especially significant innovation is developed and propagated through the program.

ANALYTICAL METHODS

The primary issues in this evaluation are related to a complex process of information and technology transfer. No single methodology or data source will be adequate to address the key elements of the evaluation.

Comparative Designs

The most powerful analytical design in this situation is the use of 'multiple lines of evidence' derived from a variety of independent data sources. Lack of precision in one data source, such as project files, can be countered with alternative sources such as participant interviews. Comparison of findings from two (or more) sources leads to a more robust assessment than that derived from a single source.

Comparison of FarmLab with other programs can also be used to examine program design and effectiveness. Other periods of time (e.g., the changes introduced so far in the ADF or the situation prior to FarmLab) may be just as useful as comparisons to othr jurisdictions (e.g., Alberta, Canada, or the USA). Examination of the thoroughly evaluated CREDA programs can be used to develop a sense of the state-of-the-art in demonstration programs in Canada.

One comparative technique which is not recommended in the time frame for this evaluation is comparison of innovations taking place inside and outside the program. Other diffusion studies have traced the rate of change in diffusion in order to assess the impacts of various programs, economic conditions, or other factors. That technique would be more appropriate if a clear line could be drawn to describe what sets FarmLab demonstrations apart.

Representative Case Studies

In order to analyze the process of agricultural technology transfer in Saskatchewan, illustrative case studies are recommended. Those studies should be chosen as representative examples, incorporating such criteria as:

- o soils, crops, livestock, equipment
- o single vs multi-site
- o technical, economic, and market objectives.

The case studies would be used to develop project-level data on the actual process of technology transfer, especially the role of demonstrations and the sources of information for key decisions at each stage of the adoption process. Data sources would include project files and participant interviews.

Aggregate Data Analysis

Aggregate analysis of either economic or attitudinal data does not appear to be appropriate for this evaluation. Clear-cut distinctions between groups have not yet been defined in a way which relates directly to the major evaluation issues. Under these circumstances, the costs of collecting and analyzing the data outweigh the value of the insights which could be derived.

CHAPTER 5

EVALUATION OPTIONS

Several options are possible for the full evaluation. Each incorporates several methodologies to provide the maximum amount of information for the resources available.

Neither a farmer survey nor major case studies are recommended for this evaluation. Those supplementary tasks have been included in the summary of options presented in Exhibit 5, opposite, for illustrative purposes. Each could be undertaken as an add-on to one of the three main options.

Option A: Desk Study

The most basic option for this evaluation would consist of extensions of the file and literature reviews begun during the assessment phase, and additional interviewing of key program participants.

File records would serve as the primary source of documentary evidence of program activities and performance. Key participant interviews would be used to draw out personal experience and insights. The literature review would act as the basis for comparison of FarmLab's goals, participants, and results.

Expenses would be minimized by conducting most interviews by telephone, including all interviews with people outside Regina.

The major weakness of this option is the lack of project level analysis. A demonstration participant's observations about a particular project could not be followed up or verified with site inspection and interviews with other participants in the project.

The lack of travel also hinders the evaluator's ability to get a good understanding of the field environment of the projects. Furthermore, it constrains the quality and quantity of information which can be culled from out-of-town experts such as the FarmLab participants at the University of Saskatchewan, the Ag Reps, or researchers at federal and provincial sites around the province.

For these reasons, Option A is considered inadequate and not recommended.

EXHIBIT 5

ESTIMATED COSTS FOR EVALUATION OPTIONS FOR FARMLAB DEMONSTRATION PROGRAM, 1986.

OPTION	Consulting Days: Sr. Evaluator	Res. Asst.	Support	Expense $	TOTAL $
A: File and literature reviews, HQ and telephone interviews of key program participants	10	8	2.5	300.00	7675.00
B: A + limited travel within Sask. for field interviews at the program level	12	12	3.5	1500.00	11025.00
C: B + participant interviews the form of 10 mini cases	15	25	5	2500.00	17000.00
Supplementary tasks					
D: Farmer survey on innovation N=1000 respondents	6	0	1	25000.00	28150.00
E: Five major case studies for in-depth analysis of tech. transfer process	10	20	4	2500.00	13100.00
Per diem rate	500	250	150	at cost	

Option B: Basic Study with Limited Field Interviews

The second option includes all of the activities in Option A and adds field interviews with researchers and project managers. Some Ag Reps and private sector parties would be included. The focus of this option would be on the overall design and management of farm-level demonstration programs as elements of agricultural technology transfer.

The weakness of this approach at the present time is the lack of specific knowledge about the empirical role of FarmLab demonstrations in the transfer process. That weakness is a significant one at this stage of development of the Saskatchewan programs. This option is therefore recommended only as a fall-back position.

Option C: Project-Level Case Studies Added to Program-Level Analysis

The recommended option is a combination of Option B with a series of mini case studies. The case studies will use file and interview data to trace the transfer process through a series of FarmLab demonstration projects. The case studies will be chosen to represent major categories of projects, such as type of technology, type of demonstration, and number of sites.

Each case study will develop a comparison between the project and the technology transfer models developed in Chapter 2. The case studies will permit project-level examination of the actual technology transfer process and the role of the FarmLab demonstrations. They will also permit analysis of gaps, if any, in effective transfer while offering the potential for disaggregation by key project variables.

This option provides the most cost-effective data for evaluation of major issues and is therefore recommended as the preferred choice.

PROPOSAL TO THE

AGRICULTURAL DEVELOPMENT FUND

"Evaluation of Field Demonstration Program"

August 1986

BRYSTRA CONSULTANTS

Regina, Sask.

August 28, 1986

Dr. T. John Taylor, Manager
Agricultural Development Fund
Saskatchewan Agriculture
3085 Albert Street
REGINA, Saskatchewan
S4S 0B1

Dear Dr. Taylor:

Re.: Evaluation of Field Demonstration Program

It is a pleasure to submit this proposal to evaluate the field demonstration activities of FarmLab and the Agricultural Development Fund. Our proposal is organized in the following sections:

- Our understanding of your present requirements
- Proposed approach and methodologies
- Work plan
- Qualifications
- Costs and terms.

Material describing the firm's experience and my resume are included in an Appendix.

YOUR REQUIREMENTS

FarmLab was a program with two major components: university research and field demonstrations to transfer research results to the farm community. The present evaluation is concerned primarily wwith the field demonstrations. During the five years of FarmLab's existence, just under 1,000 demonstrations were approved. Total approved expenditures for those demonstrations was approximately $925,000, without counting administrative or other delivery costs. The demonstrations were administered by the Saskatchewan Department of Agriculture through its Ag. Rep. network.

For the fiscal year 1986-87, FarmLab has been replaced with the Agricultural Development Fund. The Fund has a budget of $200 million over five years. Important changes have occurred recently in both the direction and management of the Fund.

Accordingly, it is now a very useful time to review the performance of the FarmLab program so that its lessons can be properly transferred to administration of the Fund.

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In particular, the Demonstration component of both programs is seen as a critical link in transferring the value of the sponsored research into successful field use. Technology transfer often involves adaptation of laboratory results to a variety of field and market conditions. Effective transfer processes have feed-back mechanisms which allow demonstrators to pass suggestions back to the laboratories for further refinements. They are also linked to the marketing or propagation organizations so that key selling points can be tested and developed. Without effective transfer mechanisms, the government's heavy investment in research is unlikely to lead to its intended economic and social benefits.

Technology transfer is an unusually difficult activity to evaluate well due to the large number of variables affecting successful transfer. Break-down of the transfer process can occur at several points for many reasons. Improper attribution can lead to decreased effectiveness in subsequent efforts. For this reason in particular, it is important that the transfer processes be accurately understood and assessed.

Issues

The central issue for this evaluation is:

> In what areas, if any, does the technology transfer model used in FarmLab require modification for effective delivery of the demonstration component of the Fund?

Several important sub-issues face the Fund' managers at this point. Those which are to be addressed in this evaluation include:

- Can the efficiency of the technology transfer system be improved?
- What format of demonstrations is most likely to maximize effectiveness?
- What can be done to increase the quality of data (e.g., project reports) stemming from the demonstrations?
- How can limited management resources best be used to operate the demonstration program?
- Can systematic guidelines be developed for the siting and delivery of demonstrations?

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- How would alternative delivery agents affect the efficiency of technology transfer?

- How many demonstrations are needed to transfer agricultural research in different specialties?

- What is the communication system by which research results are disseminated? How effectively does the present demonstration format tap that communication and adoption system?

It is quite reasonable to expect these issues to be refined and supplemented during the course of the evaluation. At least at the beginning, they reflect a general concern with technlogy transfer issues such as existing communication and adoption patterns, delivery agents, types of demonstrations, etc. More purely administrative issues, such as management content per demonstration, are of lesser concern at this point.

Some broad classification of technologies by application (e.g., cereals, cattle, machinery, etc.) will likely be necessary since transferrable research will not all be suited for a common transfer method. We understand that the Fund's personnel will be able to provide those broad classifications.

APPROACH

The evaluation process becoming widely accepted in Canada is a two-stage one. In the first part, often called the Evaluation Assessment, several preliminary steps are cleared away. They include:

- Program logic model, outlining the way the program is supposed to work, including objectives, delivery agents, causal processes, and side-effects;

- Operational description (number of grants in various categories; file records; staffing distribution, etc.);

- Prioritization of issues for evaluation;

- Identification of appropriate evaluation methodologies for each issue;

- Costing of the most likely evaluation options.

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Depending on the outcome of that assessment, the evaluation itself may take any number of different forms if it is still deemed necessary and cost-effective. In the federal government, experience has shown that good evaluation assessments have eliminated the need for a significant number of evaluations and sharply refined the evaluations which did proceed.

We propose to start with an assessment as the first phase of the evaluation.

Methodologies

During the Assessment phase, we will:

- interview the managers and some of the Ag. Reps., researchers, specialists, etc. associated with the program;
- review documents describing the rationale and operation of the program;
- sample project files to determine data quality and contents;
- conduct a literature review of technology transfer programs and related actitivites in the agricultural field;
- review the findings of the current evaluation of the Ag. Rep. system.

Products of that work will include:

- o Logic model of the program, with variations to account for changes between the FarmLab and Fund versions as necessary;
- o Communication model(s) of the paths by which research can be transferred to the farm community;
- o Program synopsis, describing activities and past management issues;
- o Evaluation issues, with a discussion of their apparent importance to management options at this time;

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- Description of data available for evaluation purposes, including its apparent reliability and comprehensiveness (especially for project files);

- Discussion of methodological options.

The evaluation assessment will be summarized in a presentation of evaluation options, including issue priorities, data available, proposed methodologies, and expected cost and time to completion.

Evaluation Option I

Assuming that the focus of the evaluation is on the effectiveness of the technology transfer process, then we anticipate that an evaluation would proceed in the manner outlined below. (Our preference is, however, to postpone a decision on the scope and specific direction of the evaluation until we know more about the options available.)

Step 1: Categorization of FarmLab projects by time and technological field. (Possibly also by geographic regon, number of demonstration sites, quality of technology, ...)

Step 2: Extraction of a non-random sample of projects to reflect the above categories for both presumed successes and non-successes. (Randomization would require advance review of all projects and their classification, an onerous and expensive task if it has not already been done.) By supplementing the recommended cases with a few randomly selected ones we will ensure that nominated cases are not exceptions to the general pattern.

Step 3: Review of each project, from technology source to present applications, to identify expected and unexpected outcomes, acceleration points and road-blocks. The review would make use of both file and interview data.

Step 4: Literature review of similar evaluations done by the World Bank, other provinces, federal or state agencies, in order to define a range of expected outcomes. (Alternatively, an examination of the Alberta program might be used to provide a single set of comparisons.)

Step 5: Reclassification of FarmLab projects in terms of their characteristics relative to the technology transfer models.

Step 6: Identification of circumstances which impede effective transfer, probably broken down by success rate, technology type, and natural distribution channels for the technology. (For example, new varieties of cereals may best be transferred through seed growers while new accounting packages may go through community business leaders.)

Step 7: Re-examination of the operating procedures of the Fund to develop recommendations for techniques which will maximize cost-effective technology transfer.

The cost of this approach would naturally depend on the number and location of case studies, the basis for comparison (literature review vs. on-sight review), and the complexity of the analysis (number of variables playing important roles).

WORK PLAN

We propose to start work on the 16th of September, with a target completion date of October 31st.

During the first week, emphasis will be placed on the file and document reviews as well as management and staff interviews.

The second week will be devoted to the literature reviews and scheduling sample field visits.

In the third week, field visits will be made to a few sites in the Regina area to discuss the project with the Ag Rep, the demonstration contractor, and other parties involved in the transfer chain.

Follow-up work in both literature and Saskatchewan government materials will be completed in the fourth week.

A draft evaluation plan will be developed in the fifth week, along with documentation of the various program models.

The final week will be used for discussion of the plan with management and revisions as needed.

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Access

Due to the heavy demands on the time of the program managers, we expect to work quite independently most of the time. On matters relating to policy directions and issue priorities, however, we will need input from management. We would be pleased to arrange that on either a formal or informal basis.

Our experience has shown that communications are enhanced if we can meet with clients at the following points:

- o First day: logistics, contacts, adjustments to work plan or priorities;
- o Start of second week: any major surprises in file content or timing changes;
- o Prior to write-up: direction of findings, priorities for evaluation options;
- o One week after draft report: revisions.

Informal contacts between those milestones will improve the communication process. If it is possible for us to work out of a desk in the Fund offices, then briefings can take place at your convenience.

QUALIFICATIONS

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